



TheWheatField

THE NEWSLETTER OF THE SASKATCHEWAN WHEAT DEVELOPMENT COMMISSION

JULY 2022 EDITION

Sask Wheat and Saskatchewan Winter Cereals Development Commission update potential amalgamation at Semi-Annual Meeting

The potential amalgamation of Sask Wheat and the Saskatchewan Winter Cereals Development Commission (SWCDC) was updated at the Sask Wheat Semi-Annual Meeting in Regina on June 21.

Following resolutions passed at the 2022 Annual General Meetings (AGMs) of each organization that called for the exploration of options for amalgamation, the two commissions undertook an online producer survey that lasted throughout January to March.

SWCDC Chair Brad White reported that over 95 percent of the respondents supported the organizations exploring options for amalgamation. Among the benefits of amalgamating, many growers agreed that having one board representing spring wheat, durum, and winter cereals growers would lead to more efficient use of staff and operational resources.

Another benefit brought forward by winter wheat producers is that an amalgamated organization will allow for increased opportunities to collaborate with Alberta Wheat Commission (AWC) and Manitoba Crop Alliance (MCA) in funding winter cereals research. Sask Wheat has well-established relationships with both AWC and MCA, notably through the Canadian Wheat Research Coalition and provincial funding programs.

When it comes to the important area of advocacy, many producers who participated in the survey mentioned that it was important to have one voice representing the Saskatchewan wheat sector. Many producers also mentioned that it was important to have a stronger voice to represent winter cereals.

There were concerns raised about a potential amalgamation. The top concern was the possibility of reduced representation of



Producers watch a presentation from sprayer expert Tom Wolf at the 2022 Semi-Annual Meeting.

winter cereals growers in an amalgamated organization. Producers also mentioned they were concerned there would be less focus and reduced funding for winter cereals research.

The survey asked growers to give their opinions on how to alleviate their concerns about an amalgamated organization. Among the responses, one suggested that the organization needs to ensure winter cereals grower representation through a Board position or a position on an advisory committee. Also, a producer commented that it is important to ensure winter cereals' needs/ research/promotion become part of future strategic plans.

Sask Wheat and SWCDC will develop an amalgamation proposal that will be released this fall. This will be followed by a second producer consultation that will be held after harvest. This consultation will lead to amalgamation resolutions being presented at the 2023 AGMs of each organization in January 2023. If the resolutions are accepted, both commissions will work with the Agri-Food Council to amend their regulations with a target date of August 1, 2023, for amalgamation.

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CHAIR'S REPORT

Sask Wheat ensuring farmers' voices are heard during regulation reviews



We are well into another growing season in Saskatchewan. As we have become accustomed to, the weather is presenting several challenges, from overly wet conditions in the east to extremely dry conditions in the west. As I write this, time is quickly running out for some areas to grow satisfactory crops, so we are hoping for the fortunes of those in the overly wet and the dry regions to turn around quickly.

The challenges caused by the weather have been compounded by input prices, which remain high largely due to Russia's invasion of Ukraine. Sanctions against Russia have tightened supplies of fuel and fertilizer worldwide, increasing the high prices producers

were already experiencing prior to and during seeding. The rising costs and inconsistent availability of herbicides are also causing concern, causing many producers to contemplate cutting back what they use or going without what would usually be a key input. How much this will cut into producers' profit margins will depend heavily on how well crop prices hold up into the fall and how the weather impacts yields and quality.

Sask Wheat has been working on resources to help producers manage the difficult planting conditions. For those who had to delay seeding due to wet conditions, Sask Wheat, along with SaskBarley, Manitoba Crop Alliance, and Alberta Wheat and Barley Commissions, created a management document for a shorter growing season. The in-season advice includes practicing good fertilizer management, preparing to manage increased disease pressure, and considering using a plant growth regulator. You can read the entire document on the Sask Wheat website.

A resource we have brought back for another year is the Fusarium Head Blight (FHB) risk maps. FHB wasn't a major issue last year due to the drought and dry conditions during heading. However, the wet conditions in the east could cause a sudden breakout of FHB if there is rain and hot, humid conditions during heading.

We encourage you to use the risk maps as a general guide for conditions in your area and to scout your fields to evaluate your local conditions better and determine if an application of fungicide is warranted. Also, make sure to review the FHB management tools on the Sask Wheat and Saskatchewan Ministry of Agriculture websites to determine the optimal plant growth stages to apply fungicide and to get spraying tips from Dr. Tom Wolf of Sprayers101.com.

I hope you had the opportunity to submit your opinion to the review of the Pest Control Products Act by the Pest Management Regulatory Agency (PMRA). Sask Wheat made a submission on behalf of Saskatchewan wheat producers, expressing that any changes to the Act must be science-based and free of political interference, making sure producers don't have to worry about political agendas hurting their farming operations. If managed well, these proposed changes and the increased focus on transparency will give producers more confidence in the regulators while generating greater public trust in our industry.

Canada's science-based regulatory system is among the best in the world, and farmers rely on Canada's regulators, including the PMRA, to maintain our international customers' confidence and support the competitiveness of Canadian producers. With the current spotlight on global food security, now more than ever, it is vital for Canadian farmers to have access to safe and efficient tools to protect their crops and increase production. Sask Wheat strongly believes that the PMRA must consider competitive and economic factors when conducting product reviews.

Another ongoing consultation is asking for opinions on the Government of Canada's plan to reduce fertilizer emissions by 30 percent below 2020 levels by 2030. Agriculture and Agri-Food Canada has released a discussion paper on fertilizer emissions reductions on their website and is currently holding an online consultation. Your voice needs to be heard on this! This plan will lead to major financial consequences for grain farmers

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EXECUTIVE DIRECTOR'S REPORT:

Next Policy Framework a key priority for Sask Wheat heading into the new crop year



The 2022 growing season is off to another challenging start, with farmers on the eastern half of the province battling excess moisture through seeding, while areas of western Saskatchewan are still dealing with drought conditions. Hopefully, the weather this summer will be more favourable for all regions of the province.

As we approach the end of the 2021/2022 grain marketing year, not surprisingly, exports are down significantly from the previous year. As of May 29, 2022, wheat exports (excluding durum) reached 9.5 million metric tonnes (MMT), down 43 percent from the previous year, while durum exports reached 2.1 MMT, down 60 percent year over year. Although production and exports were down significantly this past year, both railways struggled to fill shipper demand throughout the winter. Railway performance metrics from the Ag Transport Coalition improved throughout the spring; however, further work still needs to be done on improving the resiliency of our grain handling and transportation system. With the heightened focus on global food security, Canada needs to ensure we are seen as a reliable supplier of quality, safe food with a grain handling and transportation system that can deliver products to buyers in a timely and efficient manner.

The ongoing war in Ukraine and weather-related production concerns continue to drive movement in global wheat markets. As Mercantile Consulting mentions in their market outlook article on the following page, talk of supply shortages and a speculative trading environment have led to historically high commodity prices this spring. However, global demand and supply may not be

as tight as initially forecasted, and it will be important to continue to watch the markets closely through the summer and into harvest.

Advocacy continues to be a busy area for Sask Wheat, with many consultations underway. Sask Wheat is continuing to discuss our priorities for the Next Policy Framework to replace the Canadian Agricultural Partnership (CAP) with both the federal and provincial governments. Funding for Science, Research and Innovation programs continues to be of utmost importance to Sask Wheat. Funding provided through both federal and provincial programs under this priority area is vital to ensuring farmers have access to new varieties and technologies to support their profitability and sustainability. Additionally, ensuring Business Risk Management programs are simple, predictable, effective, and timely will be crucial to the overall success of the Next Policy Framework. The Federal, Provincial and Territorial Agriculture Ministers will be meeting in Saskatoon in July, with the Next Policy Framework being a key topic of discussion.

In May, Health Canada published their updated guidance for plant breeding innovation ending the consultation launched last year, in which Sask Wheat participated. The updated guidance sets clear rules for plant breeders working to bring superior traits to farmers using the latest plant breeding tools and techniques. Ensuring a clear, consistent, science and risk-based regulatory environment for Canadian plant breeders is essential to get improved varieties to farmers. The approach outlined by Health Canada aligns with many of Canada's trading partners, which is crucial to maintaining market access for Canadian farmers. The Canadian Food Inspection Agency is also working on plant breeding innovation guidance, and we are hopeful for a timely release of final guidance that aligns with Health Canada's decision.

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Sask Wheat welcomes a current staff member to a new role and a new staff member to the team



We are proud to announce that **Carmen Prang**, PAg, CCA, is Sask Wheat's new Agronomy Extension Specialist!

Carmen has been with Sask Wheat since October 2019, serving as the Research Program Coordinator. Carmen joined Sask Wheat from Nutrien Ag Solutions, where she was a Crop Production Advisor, doing sales and agronomy.

Carmen attended the University of Saskatchewan's College of Agriculture and Bioresources, where she obtained a B.S.A. in agronomy. While obtaining her degree, she worked with Agriculture and Agri-Food Canada in Swift Current doing special crops research, and with Monsanto in Saskatoon doing canola research.

Carmen grew up and was actively involved on her family grain farm at Milestone.

We are also proud to announce that **Kathryn Aldridge** will be joining Sask Wheat as the Research Program Coordinator!

Kathryn is currently completing her M.Sc. in Agriculture in the Agronomic and Crop Imaging Lab, focusing on herbicide resistance management at the University of Saskatchewan. She has a Bachelor of Science in Agriculture (with Great Distinction) with a major in Crop Science and a minor in Agribusiness from the University of Saskatchewan. She received the M.Sc. Departmental Devolved Graduate Scholarship and Saskatchewan Wheat Development Commission Graduate Scholarship during her graduate studies.

Kathryn comes from a family grain farm in Saskatchewan and is passionate about assisting producers faced with agronomic challenges and promoting sustainable agronomic practices.



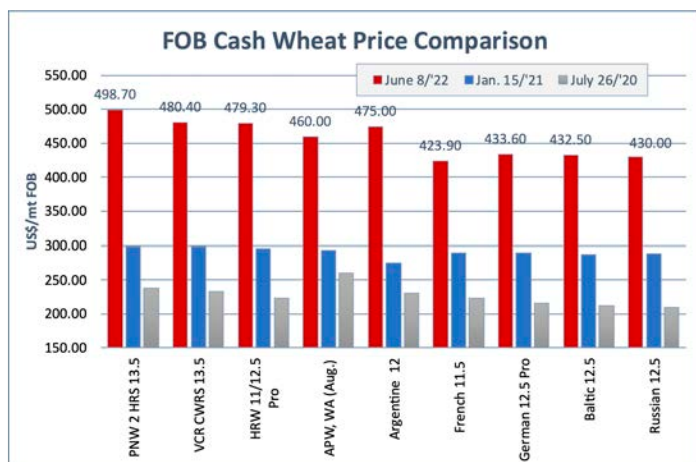
Wheat market outlook for the remainder of 2022

By Marlene Boersch, Anthony Temple, and Michael Wilton of Mercantile Consulting Venture Inc.

Seeding is finally finished on the Prairies, and this is a good time to take stock of the market to reset what we expect to happen into the fall and winter of this year.

To start, it might help maintain perspective to quickly review how far free-on-board (FOB) cash wheat prices (July/August 2022 shipment) have come since January 2021 or even since July 2020. Incredibly, CWRS prices have increased by 61% since January 2021 and more than twofold since July 2020.

A lot has happened over the period depicted, the most important being the COVID pandemic, which still has lingering effects on transportation and logistics, as well as the drought and heat



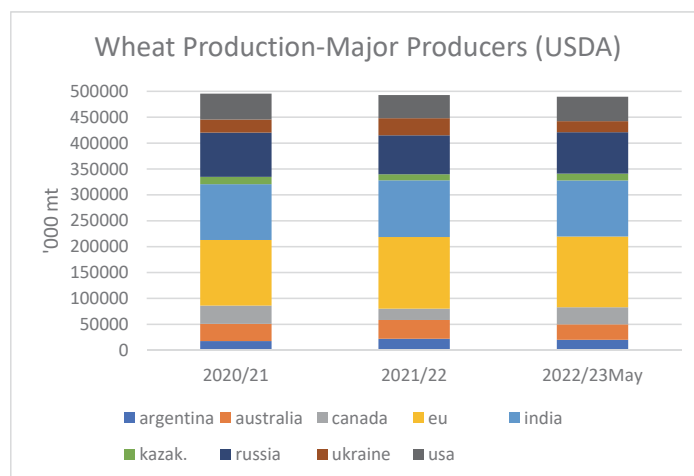
last summer, which affected global production. In addition, the Russian aggression against Ukraine, which started on February 24th, 2022, crippled Black Sea movement, changing trade relationships and curbing production and trade in Ukraine for the foreseeable future.

Circling back to wheat specifically, this has resulted in a highly speculative trading environment leading to historically high wheat prices in late May 2022. The basic rhetoric supporting record values for grain and oilseeds is that stocks are being depleted and that expected consumption will exceed supply in the coming crop year, so high prices are necessary to curb demand.

While forecasting will always be contingent on assumptions about the future, the best way to arrive at an opinion is to reduce the media noise and look at the numbers while changing them as more becomes known. Therefore, we keep reviewing the Canadian wheat production outlook and the latest global production numbers and projections by various agencies and scrutinize them against our own experience-based numbers. Alongside that, we place the demand outlook, including decisions about price-induced cutbacks. The fact that sanctions against Russia are altering trade relationships and trade flows for wheat, feed grains and oilseeds, and are changing freight availability requires special consideration this year.

Looking at the production side first, we note that the United States Department of Agriculture - World Agricultural Supply and Demand Estimates (USDA-WASDE) assesses 2022/23 global wheat

production at 775 million mt, compared to 779 million mt last year and 775 million mt in 2020/21. The 2022/23 production of the major wheat producers and exporters (Argentina, Australia, Canada, EU, India, Kazakhstan, Russia, Ukraine, and the USA, excluding China) is projected at 490 million mt, compared to 493 million mt in 2021/22 and 495 million mt in 2020/21. This represents a surprisingly small 0.7% reduction this year over last year. (It is perhaps worth noting that other agencies, like the Food and Agriculture Organization - Agricultural Market Information System (FAO-AMIS), assessed 2022/23 global wheat production at only 771 million mt compared to their 2021/22 number of 777 million mt. This would represent a 1% reduction).



Nevertheless, this year's biggest question is how much wheat can reach the deficit consumption markets. For 2022/23 exports, the USDA projects exports to reach 205 million mt, compared to 202 million mt in 2021/22 and 199 million mt in 2020/21. We think this number is too high because, given recent reports, India will not be able to export 8 million mt of wheat, nor will Ukraine be able to ship 10 million mt, given continued Russian aggression and the denial of a 'grain corridor'. We are only using 2 million mt for each of these two origins. This lowers the Mercantile export number to 190 million mt of export capacity. (In the unlikely event that Ukraine becomes able to export, for example, via an agreed-upon 'grain corridor,' then the potential export number would increase.)

On the demand side of the equation, we scrutinized each of the important import buyers. The largest wheat importers are Indonesia, Egypt, Turkey, China, Mexico, Morocco, Nigeria and the Philippines, so shipments to the Middle East/ Africa and to Asia generate the highest volumes. USDA assessed total import demand at 199 million mt, whereas we added individual demand to 194 million mt. Given our projected exports of 190 million mt, this maintains that exporters should be able to fill 97.7% of projected export demand without too many problems. Note that the projected 2.3% shortage is spread over 12 months, so it will not be 'acute' in the fall/ winter. In fact, record harvest prices might result in strong farmer deliveries (in Canada and elsewhere) and lead to temporary excess supplies for the September to January period. Add continuing freight and logistics problems, which could create supply pressure at the source of grain while

shortages clearly exist elsewhere. FOB and cost, insurance, and freight (CIF) price relationships may erode, resulting in elevated CIF prices against depressed FOB values.

Further on demand, there is also the question of additional demand rationing if prices stay at record levels. This certainly is a threat to the depth of demand from the Middle East and Africa, hence the discussions about global hunger and famine. We think this will be relatively contained, as governments will go to great lengths to keep the most basic food items available. For example, we have already seen the International Islamic Trade Finance Corporation (ITFC) give Egypt \$3 billion of financing for food purchases. Egypt will also get \$600 million from the EU and World Bank to finance storage improvement for domestic wheat purchases, and the European Bank for Reconstruction and Development (EBRD Bank) has so far lent Tunisia €150 million to finance grain purchases, following a financial crisis that caused payment delays to recent shipments. Altogether, Mercantile expects import demand for wheat to balance out at 194 million mt against projected available supplies of 190 million mt.

The big question then is if the global wheat balance above warrants the maintenance of historically high prices for wheat into the 2022/23 crop year. Based on the current production outlook, our conclusion is that there is tightness and logistic and freight problems, but no major looming ‘food catastrophe’ as advertised by some media. Therefore, we expect wheat prices to continue to fall from record levels as the narrative about widespread famine is being dispelled. Given our weekly comments, we hope that farmers took and continue to take advantage of high prices and good returns on investment in their crops. NO 2021 crop wheat should be held over into the new year, and recent crop sales should be on the books. We would appeal to the Canadian government to ensure sufficient railcars are available this summer to clean out all old crop stocks at existing record prices. Railcar availability should not be a deterrent to realizing such prices.

Remember to adjust production numbers (up or down) and the resulting balance sheet as more data comes in from the Northern and Southern hemispheres throughout the growing period.

The influence of genotype, weather and the growing environment, and crop management on gluten strength in CWRS wheat:

An interview with Dr. Harry Sapirstein

Project Title: Influence of Genotype, Weather and the Growing Environment, and Crop Management on Gluten Strength of CWRS Wheat

Lead Researchers: Dr. Harry Sapirstein and Dr. Paul Bullock

Organization: University of Manitoba

Sask Wheat Funding Amount: \$178,921

Funding Partners: Western Grains Research Foundation (WGRF), Alberta Wheat Commission (AWC), Manitoba Agriculture, Food & Rural Development (MAFRD) GI-ARDI program, Manitoba Crop Alliance (MCA)

Canada Western Red Spring (CWRS) wheat is the largest and most important wheat class in Canada. It's known internationally for having excellent milling and baking qualities, and due to its relatively high protein content and gluten strength, it's used extensively in the commercial production of pan and hearth breads and other wheat-based foods.

Given the CWRS brand's reputation, Dr. Harry Sapirstein, Senior Scholar, University of Manitoba, Faculty of Agricultural and Food Sciences, specializing in wheat end-use quality science and technology, was surprised and intrigued when he and others were told at a Prairie Grain Development Committee meeting in 2013 that questions were being raised about excessively variable, even deficient, gluten strength in CWRS wheat shipments.

This was anecdotal information, he says, but it motivated him and Dr. Paul Bullock, a university colleague in the Department of Soil Science, to draft a research proposal.

“Our research was aimed at determining how much variation of gluten strength there was in the leading varieties and what was causing it. More specifically, we wanted to quantify how much of

that variation was due to the genotype makeup of the class, and how much was due to the growing environment, as well as to determine if any significant interactions were occurring between genotype and environment,” explains Sapirstein. “We also wanted to develop an understanding of factors in the growing environment contributing to the variability.”

With these objectives in mind, they launched the most comprehensive study ever conducted in Canada on the influence of genotype, growing environment, and select management practices (popular pesticide use and delayed harvest) on gluten strength and wheat quality in general. “In the end, we generated over 40 site-years of results for a set of leading varieties for over 20 wheat, flour, dough and protein quality parameters.”

“By generating more and better information on the nature of CWRS wheat quality and factors that cause it to vary, the long-term goal of this project was to solidify and enhance the CWRS wheat brand for the benefit of farmers and the value chain,” Sapirstein explains.

Results confirmed that excessive variation in gluten strength in wheat shipments most likely existed in 2013 when the project was conceived and that the issue probably remains today. “The range of variability due to genotype has been reduced somewhat due to the current makeup of CWRS varieties. However, variation in gluten strength due to growing conditions may even be greater given the kind of weather the Prairie region has been experiencing,” says Sapirstein.

Sapirstein notes another relevant factor not directly studied in their research, which he says likely contributes to variable gluten strength in wheat shipments—the supply chain. “Modernization of western Canada's grain handling system with the build-up of new high-capacity elevators with high throughput efficiencies has been remarkable in the past decade or so. Also absent is the Canadian Wheat Board and the blending of genotype and environmental effects that occurred for many decades under its delivery quota

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An interview with Dr. Harry Sapirstein *continued from previous page*

system, which provided highly effective quality control of properties like gluten strength regardless of the wheat's point of origin." In 2013, the wheat marketing system transitioned from the Canadian Wheat Board to private grain companies. "Wheat for export typically flows by rail to ocean-going vessels from farms in relatively small catchment areas around limited numbers of points of origin (those high-capacity elevators) with limited commingling. Intuitively, this would lead to regional differences in commercial shipments for quality properties like gluten strength that can't be controlled by the grading system," he says.

The research, based on replicated field trials, confirmed that different growing conditions across the Prairies contributed substantial variation in both protein content and gluten strength.

"Interestingly, the geographic coordinates of growing locations were almost irrelevant to gluten strength—that was somewhat of a surprise," Sapirstein admits. "While gluten strength is a genetically anchored trait, variation in gluten strength across growing sites, even for those in relatively close proximity, was almost entirely due to local weather conditions."

This aspect of the research relied heavily on Paul Bullock, who is an expert in agrometeorology. "Paul was the on-the-ground expert on the complexities of weather and how to monitor weather in relation to crop effects. That expertise is crucial to this kind of research," says Sapirstein.

They made several new weather-related findings. For example, significant effects of varying weather across growing locations on gluten strength and protein content of the harvested crop appear to be linked to patterns of precipitation and temperature that the crop is exposed to even before grain develops. Also, weather conditions associated with gluten strength were different in type and timing during crop development from those related to protein content. And while delayed harvest adversely affected wheat grade, it did not negatively affect gluten strength. In fact, gluten strength increased slightly for wheat samples from the two most delayed harvest dates.

Gluten is formed when flour containing gliadin and glutenin, the two main protein types in the wheat kernel, is mixed with water to form dough. "The viscous and elastic nature of dough that makes wheat unique for bread making is due to the presence and

interaction of these two proteins whose levels in the grain vary due to genotype and environment." As such, Sapirstein says protein content is commonly considered a proxy for gluten strength. However, one of the study's most important findings is that gluten strength does not reflect protein content.

"As grain or flour protein content was found to be unrelated to gluten strength, and gluten strength is not a grading factor, it can't be controlled in the supply chain, so this issue (excessively variable gluten strength in wheat deliveries) is likely to persist although the industry seems to be tolerating it," he says. "Any grading factor has to be easily determined. Grain protein content, moisture content, and even oil content for canola can all be quickly and accurately measured by modern technology using near-infrared reflectance. Unfortunately, near-infrared reflectance applied directly on whole wheat or flour can't measure gluten strength as it can't distinguish between gliadin and glutenin proteins which have distinctly different effects on dough properties."

Even if gluten strength can't (yet) be implemented as a grading factor, Sapirstein says figuring out how to do effective and efficient measurement or quality control of gluten strength would be a big step forward and would be well received by the value chain, including wheat breeders. "We're not anywhere near a solution," he admits, "but I believe the development of a driveway test or at least a more efficient analytical way to test for gluten strength that's not entirely dependent on chemistry is feasible and justifiable given its importance to the CWRS wheat brand. This should be a funding priority in wheat quality research." "We developed a sensitive, accurate and straightforward protein fractionation procedure to distinguish and quantify gliadin and glutenin, which provided invaluable data to explain the biochemical nature of gluten strength and its variation." He says this could potentially be exploited to develop a driveway test for gluten strength.

Another area Sapirstein says is worth exploring is adopting a "genotype by growing environment" or G x E approach in wheat registration trials on a limited basis for a few key quality traits, most notably gluten strength. "In wheat registration trials, end-use quality properties are evaluated on candidate lines based on composite samples, which are wheat blends from individual trial sites. This is done to specifically eliminate or minimize the effects of growing conditions so that lines are evaluated based only on genotype-related performance in a given trial year. Alternatively, research like ours could be streamlined and implemented on an ongoing basis for a few leading registered varieties to develop a long-term database of G x E results for CWRS wheat in the Prairie region that could be used as a resource by the value chain."

"What's very intriguing from the results of our weather analysis is the suggestion that we may be able to predict protein content and gluten strength well before harvest by developing computer models that incorporate the key precipitation- and temperature-related parameters and time intervals from seeding dates," he says. "If we could do that, it would have considerable value for grain companies and farmers. But we have a long way to go before we can possibly get there."

While their G x E study has generated considerable new knowledge, Sapirstein says, "there's a pressing need for more science going forward, as crop quality and marketing issues related to weather and climate change could seriously challenge the reputation of CWRS wheat as a premium bread wheat class in global markets."

Chair's Report *continued from front page*

in Saskatchewan. The link to this consultation is available on the main page of the Sask Wheat website. Take part in this and let the federal government know how this policy will impact you and your farm.

Finally, I invite you to visit the Sask Wheat and SaskBarley booth at Ag in Motion, number 604. This is the first year we are hosting a booth at the event, and we are excited to meet with as many producers as possible. Our staff and directors will be there along with guests such as researchers and wheat breeders to talk to you and answer any questions you may have.

As always, don't hesitate to contact us if you have any questions or concerns. I wish you all the best this summer.

Brett Halstead, Chair

Sask Wheat Graduate Scholarship recipient profile: Blake Weiseth

By Michelle Boulton



Blake Weiseth, who was one of six Sask Wheat Graduate Scholarship recipients for 2021–2022, has always been motivated to find solutions for real-world problems.

Growing up on a mixed grain and livestock farm near Shaunavon, Saskatchewan, he “got first-hand experience with the practical, real-world logistical challenges a farmer might face.” That experience inspired him to study soil science in the University of Saskatchewan’s College of Agriculture and Bioresources,

where he completed his undergraduate and master’s degrees and is now working on his PhD.

In his research, he’s exploring how we can use the four Rs of nutrient stewardship—right source, right rate, right application timing, and right placement method—to inform better agricultural management practices for applying nutrients to maximize crop yields and minimize potential adverse impacts.

“I’m primarily looking at potential phosphorus losses in snowmelt runoff,” he explains. “When runoff water that is enriched with phosphorus enters surface water bodies, it can result in all sorts of water quality challenges, namely algal blooms—algal growth explodes, so we see eutrophication and the very noticeable green colour in some of our lakes and aquatic water bodies.”

Environmental impacts are only one part of the equation, says Weiseth. “We also recognize that phosphorus is an essential nutrient for crop growth. So, we want to figure out how we can best make use of what we’re applying so the crop takes up the nutrients, or they remain in the soil where they can be used for future crops rather than being lost from the system.”

He notes that, while farmers are interested in sustainable farming practices, they’re also concerned about the economic imperative. “We recognize that farmers want to make best use of their nutrients because it’s a substantial expense. This project will identify management practices that a producer can use to

optimize their farm’s productivity while limiting potential nutrient losses in runoff water.”

Weiseth acknowledges other researchers are already exploring ways to make best use of phosphorus fertilizers, but says his research takes things one step further.

“We understand our four Rs of nutrient stewardship quite well, but my research is also looking at how those respond across different topographies in a given field,” he explains. “For example, a hill slope may be subject to erosion, or may have low organic matter. Fertilizers might respond quite differently in that situation compared to a landscape depression area, which may have topsoil that has moved down from the hills.”

“Even within a so-called ‘normal year,’ we see areas within a field that are subject to moisture limiting conditions and other areas subject to excessive moisture,” he says. “Part of what I’m trying to understand is how we can make use of this information.”

He’s exploring different phosphorus fertilizers to see if they respond differently under dry versus wet conditions, as well as application rate. This work may inform use of what Weiseth describes as “variable-source” fertilizer application, where certain products may be applied under situations of high risk for losses in runoff water.

One of the field sites for his project is at the Glacier Farm Media Discovery Farm near Langham, Saskatchewan, where he is the applied research lead. “My role there is to partner with all sorts of different groups in the industry representing much of the supply chain—crop input companies, equipment companies, technology companies,” he says. “I also get to help implement different demonstration and research projects looking at the different data layers that help us inform objective management decisions.”

He says, because the Discovery Farm operates like a commercial farm in some respects, such as using real-world, field-scale equipment, and even going through the process of sourcing crop inputs, it gives him a lens on the real world. “I’ve been really fortunate,” he says. “I get to have one foot in industry and one foot in academia.”

In addition to his academic work, Weiseth has a wealth of professional experience in both the public and private sectors. He has served as a research specialist with the Saskatchewan Ministry of Agriculture, and his position at the Discovery Farm is a joint appointment between Glacier Farm Media and Saskatchewan Polytechnic, where he holds a research chair position. “This opens the door to all sorts of great collaboration with other faculty and researchers at Sask Polytech,” he says.

Weiseth is also very pleased to be making connections through Sask Wheat. “I was fortunate to have received the Sask Wheat scholarship,” he says. “I’m very thankful for their interest in and support for the research I’m doing, but perhaps more important is the opportunity to develop a relationship with them as a commodity association. In many respects, commodity associations represent our ear to the real world, and I welcome the opportunity to hear about the research challenges growers, their members, are experiencing.”

Executive Director’s Report *continued from page 3*

Another important area for Sask Wheat over the coming months will be exploring amalgamation options with the Saskatchewan Winter Cereals Development Commission (SWCDC). Our organizations believe there are important opportunities to explore regarding how Sask Wheat and SWCDC can work closer together to maximize levy payer value. We are committed to moving forward in a transparent process with numerous accessible consultation opportunities. As a levy-paying producer, your voice is essential, and we want to hear from you through our upcoming consultations this fall!

Blair Goldade, Executive Director

MANAGE RESISTANCE *Now*

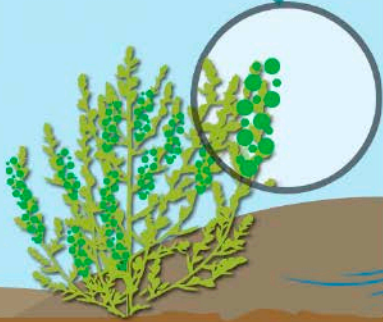
MANAGING HERBICIDE- RESISTANT KOCHIA

Protect your land, one field at a time

Preventing kochia from setting seed (in field and non-crop areas) is critical to reducing its spread

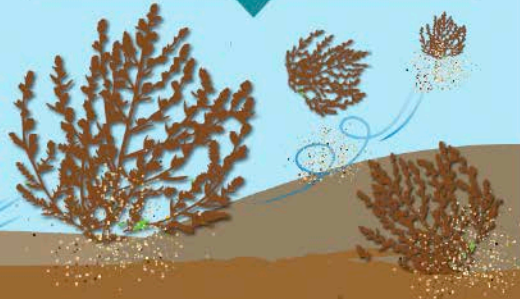
YEAR 1, SUMMER

Each kochia plant produces 15,000 seeds on average, ranging up to 120,000 seeds per plant.



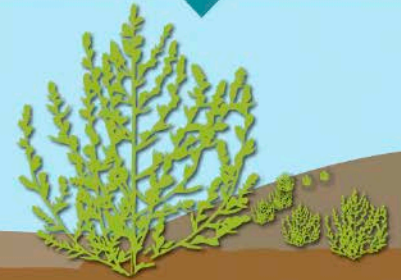
YEAR 1, FALL

If left uncontrolled, the stem of a mature plant will break at its base and roll like a tumbleweed across fields, dispersing seeds as it goes. Avoiding this from happening is critical.



YEAR 2, SPRING

When a resistant plant sets seed, thousands of those seeds will germinate the following year and a resistant population can build quickly. A tell-tale sign of this is a 'kochia trail.'



Read the full herbicide-resistant kochia management document at saskwheat.ca



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